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CLAIMS

1. Evaporation apparatus comprising:
 - an evaporation chamber that is inflatable; and
 - 5 - fluid flow control means for controlling the
 respective introduction and release of gas to and
 from the chamber to control the inflation of the
 chamber;

wherein in use the inflated chamber is adapted for
10 containing a volume of liquid in a pool at a base thereof
 to be evaporated and carried out of the chamber as a
 vapour by the gas passing across the pool.
2. Apparatus as claimed in claim 1 wherein the fluid flow
15 control means is used to control the gas pressure and the
 flow rate of gas within the chamber.
3. Apparatus as claimed in claim 1 or claim 2 wherein the
20 fluid flow control means includes a fan for introducing
 gas into the evaporation chamber, the fan sealably
 positionable at a hole made in a wall of the chamber.
4. Apparatus as claimed in claim 3 wherein the fan is a
25 variable speed fan.
5. Apparatus as claimed in any one of the preceding claims
 wherein the fluid flow control means also includes an
 outlet pressure release valve via which gas is released
 from the chamber, the valve sealably positionable at a
30 hole formed in the wall of the chamber.
6. Apparatus as claimed in any one of the preceding claims
 wherein the fluid flow control means is arranged to

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substantially prevent the ingress of a diluent liquid other than the liquid to be evaporated into the chamber.

7. Apparatus as claimed in any one of the preceding claims
5 wherein the evaporation chamber is an enclosure made of a flexible wall material.
8. Apparatus as claimed in claim 7 wherein the flexible
10 wall material comprises a single layer only of said material.
9. Apparatus as claimed in claim 7 or claim 8 wherein the enclosure is made of a plastic material.
- 15 10. Apparatus as claimed in any one of the preceding claims wherein the evaporation chamber is self-supporting in the inflatable state.
11. Apparatus as claimed in any one of the preceding
20 claims wherein the evaporation chamber in the inflatable state is arranged with a shape suitable for preventing the build up of a second fluid on the outer surface of the chamber.
- 25 12. Apparatus as claimed any one of the preceding claims wherein the enclosure is elongate and tubular in shape.
13. Apparatus as claimed in any one of the preceding
30 claims wherein the liquid to be evaporated can be introduced into the enclosure in a batchwise or a continuous manner via a liquid introduction port located in the exterior of the enclosure.

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14. Apparatus as claimed in any one of the preceding claims wherein the vapour released from the chamber is condensed by a condenser means located external of the evaporation apparatus.

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15. Apparatus as claimed in claim 14 wherein the condenser means comprises a pipe which is arranged external of the evaporation apparatus for condensing of the vapour.

10 16. Apparatus as claimed in claim 15 wherein the gas in the pipe can be reintroduced into the chamber.

17. Apparatus as claimed in any one of the preceding claims wherein the evaporation apparatus is adapted to be
15 floated on a body of liquid.

18. A process for concentrating a substance in a mixture of the substance with a liquid, the process comprising the steps of:

20 - passing the mixture into an inflatable chamber as defined in any one of claims 1 to 17; and
- controlling the respective ingress and release of gas into and out of the chamber,
wherein over time the substance is concentrated in the
25 mixture in a base of the inflatable chamber for subsequent collection.

19. A process for concentrating a substance in a mixture of the substance with a liquid, the process comprising
30 the steps of:

- passing the mixture into an inflatable chamber as defined in any one of claims 1 to 17; and

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- causing a gas to flow across a pool of the liquid in a chamber to cause a concentration of the substance in the liquid over time.

- 5 20. A process as claimed in claim 18 or claim 19 wherein the liquid to be evaporated can be introduced into the inflatable chamber in a batchwise or a continuous manner.